IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Walter Callen et al.   Art Unit : 1645
Serial No. : 10/081,739   Examiner : Unknown
Filed   : February 21, 2002
Title   : ENZYMES HAVING ALPHA AMYLASE ACTIVITY AND METHODS OF
             USE THEREOF

BOX SEQUENCE
U.S. Patent and Trademark Office
P.O. Box 2327
Arlington, VA 22202

RESPONSE TO NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE AND/OR AMINO ACID SEQUENCES

In response to the communication dated February 11, 2003 (copy enclosed), applicants
submit herewith a Sequence Listing in computer-readable form as required by 37 CFR §1.824.
In addition, applicants submit a substitute Sequence Listing as required under 37 CFR §1.823(a)
and a statement under 37 CFR §1.821(f).

Applicants respectfully request entry of the paper copy and computer-readable copy of
the Sequence Listing filed herewith for the instant application. Furthermore, applicants request
entry of the following amendments.

In the specification:

Replace the original Sequence Listing with the substitute Sequence Listing filed

herewith.

Applicant   Walter Callen et al.   Attorney's Docket No.: 09010-107001   DIVER1530-6
Serial No.   10/081,739
Filed   February 21, 2002
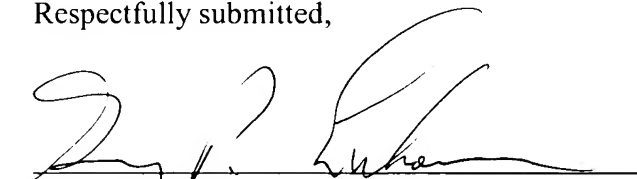Page   2

REMARKS

Applicants hereby submit that the enclosures fulfill the requirements under 37 C.F.R. §1.821-1.825. The amendments in the specification merely replace the original Sequence Listing with an amended substitute Sequence Listing. The substitute Sequence Listing contains amended organisms for SEQ ID NOs:3-10 and 66-69. No new matter has been added.

Please apply any charges or credits to Deposit Account No. 06-1050, referencing attorney docket number 09010-107001.

Respectfully submitted,

Date: March 19, 2003

Gregory P. Einhorn
Reg. No. 38,440

Fish & Richardson P.C.
4350 La Jolla Village Drive, Suite 500
San Diego, California 92122
Telephone: (858) 678-5070
Facsimile: (858) 678-5099

10259781.doc

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: Walter Callen et al.		Art Unit	: 1645
Serial No.	: 10/081,739		Examiner	: Unknown
Filed	: February 21, 2002			
Title	: ENZYMES HAVING ALPHA AMYLASE ACTIVITY AND METHODS OF USE THEREOF			

BOX SEQUENCE
U.S. Patent and Trademark Office
P.O. Box 2327
Arlington, VA 22202

VERIFIED STATEMENT UNDER 37 CFR §1.821(f)

I, Jennifer H. Payne, declare that I personally prepared the paper and the computer-readable copy of the Sequence Listing filed herewith for the above-identified application and that the content of both is the same.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of The United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: March 7, 2003

_____
Jennifer H. Payne

Fish & Richardson P.C.
4350 La Jolla Village Drive, Suite 500
San Diego, California 92122
(858) 678-5070 telephone
(858) 678-5099 facsimile

10259802.doc

UNITED STATES PATENT AND TRADEMARK OFFICE

OIPE JC42
MAR 2 5 2003
PATENT TRAD...

Commissioner for Patents
Washington, DC 20231
www.uspto.gov

APPLICATION NUMBER	FILING RECEIPT DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
10 081,739	02 21 2002	Walter Callen	09010-107001

20985
FISH & RICHARDSON, PC
4350 LA JOLLA VILLAGE DRIVE
SUITE 500
SAN DIEGO, CA 92122

CONFIRMATION NO. 1077
FORMALITIES LETTER

OC000000009505918

Date Mailed: 02/11/2003

NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

Filing Date Granted

Applicant is given **TWO MONTHS FROM THE DATE OF THIS NOTICE** within which to file the items indicated below to avoid abandonment. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

- A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing." Applicant must provide a substitute computer readable form (CRF) copy of the "Sequence Listing" and a statement that the content of the sequence listing information recorded in computer readable form is identical to the written (on paper or compact disc) sequence listing and, where applicable, includes no new matter, as required by 37 CFR 1.821(e), 1.821(f), 1.821(g), 1.825(b), or 1.825(d).

For questions regarding compliance to these requirements, please contact:

- **For Rules Interpretation, call (703) 308-4216**
- **To Purchase PatentIn Software, call (703) 306-2600**
- **For PatentIn Software Program Help, call (703) 306-4119 or e-mail at patin21help@uspto.gov or patin3help@uspto.gov**

A copy of this notice MUST be returned with the reply.

Customer Service Center
Initial Patent Examination Division (703) 308-1202
PART 2 - COPY TO BE RETURNED WITH RESPONSE

RAW SEQUENCE LISTING
ERROR REPORT -

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: _10/081,739_
Source: _OIPE_
Date Processed by STIC: _1/29/03_

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:
1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.
PATENTIN 2.1 e-mail help: **patin21help@uspto.gov** or phone 703-306-4119 (R. Wax)
PATENTIN 3.0 e-mail help: **patin3help@uspto.gov** or phone 703-306-4119 (R. Wax)

TO **REDUCE ERRORED SEQUENCE LISTINGS, PLEASE** USE THE **CHECKER VERSION 3.1 PROGRAM**, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:
> **http://www.uspto.gov/web/offices/pac/checker**

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.
Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.
Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (**<http://www.uspto.gov/ebc/efs/downloads/documents.htm>** , **EFS Submission User Manual** - ePAVE)
2. **U.S. Postal Service:** U.S. Patent and Trademark Office, Box Sequence, P.O. Box 2327, Arlington, VA 22202
3. **Hand Carry directly to:**
   U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7th Floor, Examiner Name, Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202
   > Or
   U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202
4. **Federal Express, United Parcel Service, or other delivery service to:** U.S. Patent and Trademark Office, Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

Revised 01/29/2002

ERROR DETECTED **SUGGESTED CORRECTION** SERIAL NUMBER: 10 081,739

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

1 _____ Wrapped Nucleics
Wrapped Aminos

The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."

2 _____ Invalid Line Length

The rules require that a line not exceed 72 characters in length. This includes white spaces.

3 _____ Misaligned Amino
Numbering

The numbering under each 5th amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.

4 _____ Non-ASCII

The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.

5 _____ Variable Length

Sequence(s) _____ contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.

6 _____ PatentIn 2.0
"bug"

A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s) _____. Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.

7 _____ Skipped Sequences
(OLD RULES)

Sequence(s) _____ missing. If intentional, please insert the following lines for each skipped sequence:
(2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
(i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)
(xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
This sequence is intentionally skipped

Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.

8 _____ Skipped Sequences
(NEW RULES)

Sequence(s) _____ missing. If intentional, please insert the following lines for each skipped sequence.
<210> sequence id number
<400> sequence id number
000

9 _____ Use of n's or Xaa's
(NEW RULES)

Use of n's and/or Xaa's have been detected in the Sequence Listing.
Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.
In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.

10 ✓ _____ Invalid <213>
Response

Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence

11 _____ Use of <220>

Sequence(s) _____ missing the <220> "Feature" and associated numeric identifiers and responses. Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.
(See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)

12 _____ PatentIn 2.0
"bug"

Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.

13 _____ Misuse of n

n can only be used to represent a single nucleotide in a nucleic acid sequence. N is not used to represent any value not specifically a nucleotide.

OIPE

Does not comply
Hand

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/081,739

DATE: 01/29/2003
TIME: 08:12:35

Errors on pp. 3-5

Input Set : A:\09010-107001.txt
Output Set: N:\CRF4\01292003\J081739.raw

```
  4  <110> APPLICANT: Callen, Walter
  5         Richardson, Toby
  6         Frey, Gerhard
  7         Miller, Carl
  8         Kazaoka, Martin
  9         Short, Jay
 10         Mathur, Eric
 12  <120> TITLE OF INVENTION: ENZYMES HAVING ALPHA AMYLASE ACTIVITY
 13         AND METHODS OF USE THEREOF
 15  <130> FILE REFERENCE: 09010-107001
 17  <140> CURRENT APPLICATION NUMBER: 10/081,739
 18  <141> CURRENT FILING DATE: 2003-01-21
 20  <150> PRIOR APPLICATION NUMBER: 60/270,495
 21  <151> PRIOR FILING DATE: 2001-02-21
 23  <150> PRIOR APPLICATION NUMBER: 60/270,496
 24  <151> PRIOR FILING DATE: 2001-02-21
 26  <150> PRIOR APPLICATION NUMBER: 60/291,122
 27  <151> PRIOR FILING DATE: 2001-05-14
 29  <160> NUMBER OF SEQ ID NOS: 69
 31  <170> SOFTWARE: FastSEQ for Windows Version 4.0
 33  <210> SEQ ID NO: 1
 34  <211> LENGTH: 1311
 35  <212> TYPE: DNA
 36  <213> ORGANISM: Artificial Sequence
 38  <220> FEATURE:
 39  <223> OTHER INFORMATION: Synthetically generated
 41  <400> SEQUENCE: 1
 42  atggccaagt actccgagct ggaaaagggc ggggtcataa tgcaggcgtt ctactgggac    60
 43  gtgccttcag gaggaatatg gtgggacaca atacggcaga agataccgga gtggtacgat   120
 44  acggaatct ccgaatatg gattcccccg gcgagcaagg gcatgggcgg cgcctattca     180
 45  atggtctacg accctacga cttctttgac ctcggtgagt acgaccagaa gggaacggta    240
 46  gagagcgcgt tggctccaa gcaggagctc gtgaacatga taaacaccgc ccacgcctat    300
 47  ggcatgaagg taatagccga tatagtcatc aaccaccgcg ccggcggtga cctggagtgg   360
 48  aagccttcg tgaacgacta tacctggacc gacttctcaa aggtcgcgtc gggtaaatac    420
 49  acggccaact actcgacttt ccacccgaac gagctccatg cgggcgattc cggaacattt   480
 50  ggaggctatc ccgacatatg ccacgacaag agctgggacc agtactggct ctggccagc    540
 51  caggagct atgcggcata tctcaggagc atggcatcg atgcctggcg cttcgactac    600
 52  gtcaagggct atgtccctg ggtcgtcaag gactggctga actggtgggg aggctggcc   660
 53  gttgtagagt actgggacac caacgtcgag gctgttctca ctggccata ctgagcggt    720
 54  gccaaggtct ttgacttcgc cctctactac aagatggatg aggcctttga caacaaaaac   780
 55  attccagcga ctgtctctgc ccttcagaac ggccagactg ttgtctccg cgaccggttc    840
 56  aaggccgtaa cttttgtagc aaaccaggac accgatataa tctggaacaa gtatccagcc   900
 57  tacgcttca ttttaactca cgaggggcag gcgacaatat tttacgttga ttacgaggac    960
```